



Dart Aerospace Ltd.  
1270 Aberdeen St  
Hawkesbury, ON  
K6A 1K7  
Canada

Tel (613) 632-5200  
Fax 613 632-5246

**D2322**  
**Job Sheet 202336**



**Part No:** D2322

**Job Qty:** 12 pcs

**Part Name:** Step Spacer



**Part Weight:** 0 lbs

**Status:** New

**Priority:** Medium

**Job Created:** 10/24/19

**Job Tracking No:**

**Due Date:** 11/4/19

**Created By:** Marie Lajeunesse

**Type:** SOLD

**Description:**

**Note:** DWG REV C IPP Rev:A New Issue 05-11-07 JLM IPP Rev;B Now on Waterjet 06-07-03 JLM

**Ship Via:**

### Bill of Materials

### Job Routing

| Op No | Operation                  | Qty    | Start Date | Due Date | Standard  |         | Workcenter/Supplier         |           | Sign-off       |
|-------|----------------------------|--------|------------|----------|-----------|---------|-----------------------------|-----------|----------------|
|       |                            |        |            |          | Setup Hrs | Run Hrs | Workcenter / Supplier       | Lead Time |                |
| 100   | Waterjet - Flow - 1        | 12 pcs |            | 11/4/19  | 0.17      | 0.66    | Waterjet - Flow             |           | JRB 10/31/2019 |
| 120   | QC 8                       | 12 pcs |            | 11/4/19  | 0.00      | 0.00    | QC 8 - 12                   |           |                |
|       |                            |        |            |          |           |         | QC 8 - 14                   |           |                |
|       |                            |        |            |          |           |         | QC 8 - 17                   |           |                |
|       |                            |        |            |          |           |         | QC 8 - 20                   |           |                |
|       |                            |        |            |          |           |         | QC 8 - 25                   |           |                |
|       |                            |        |            |          |           |         | QC 8 - 3                    |           |                |
|       |                            |        |            |          |           |         | QC 8 - 32                   |           |                |
|       |                            |        |            |          |           |         | QC 8 - 33                   |           |                |
|       |                            |        |            |          |           |         | QC 8 - 35                   |           |                |
|       |                            |        |            |          |           |         | QC 8 - 39                   |           |                |
|       |                            |        |            |          |           |         | QC 8 - 4                    |           |                |
|       |                            |        |            |          |           |         | QC 8 - 44                   |           |                |
|       |                            |        |            |          |           |         | QC 8 - 45                   |           |                |
|       |                            |        |            |          |           |         | QC 8 - 49                   |           |                |
|       |                            |        |            |          |           |         | QC 8 - 58                   |           |                |
|       |                            |        |            |          |           |         | QC 8 - 8                    |           |                |
|       |                            |        |            |          |           |         | QC 8 - 9                    |           |                |
|       |                            |        |            |          |           |         | QC 8 - 68                   |           |                |
|       |                            |        |            |          |           |         | QC 8 - 67                   |           |                |
|       |                            |        |            |          |           |         | QC 8 - 1 (A)                |           |                |
|       |                            |        |            |          |           |         | QC 8 - 47                   |           |                |
|       |                            |        |            |          |           |         | QC 8 - 40                   |           |                |
|       |                            |        |            |          |           |         | QC 8 - 52                   |           |                |
|       |                            |        |            |          |           |         | QC 8 - 23                   |           |                |
|       |                            |        |            |          |           |         | QC 8 - 57                   |           |                |
|       |                            |        |            |          |           |         | QC 8 - 76                   |           |                |
|       |                            |        |            |          |           |         | QC 8 - 61                   |           |                |
| 130   | Small Fab - Brake NC - B4B | 12 pcs |            | 11/4/19  | 0.25      | 0.38    | Small Fab - Brake - 1 - B4B |           |                |
|       |                            |        |            |          |           |         | Small Fab - Brake - 2 -     |           |                |

Dart Aerospace Ltd.  
1270 Aberdeen Street  
Hawkesbury, ON K6A 1K7  
CANADA  
TEL.: 1 613 632-5200  
Email: sales@dartaero.com  
www.dartaero.com



**Container No:** S228903

**Part:** D2322

**Job No:** 202336

**Serial No/Batch:** S228903

**Revision:**

**Inspector:**

**Exp Date:**

**Instructions:** Various STC's

**Date:** 10/31/19

**DAS 40 9-89**  
**NOV 06 2019**  
**DAS 30 9-89**  
**NOV 06 2019**

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|                                   |        |         |           | B4B                         |  |
|-----------------------------------|--------|---------|-----------|-----------------------------|--|
|                                   |        |         |           | Small Fab - Brake - 3 - B4B |  |
| 140 QC 5                          | 12 pcs | 11/4/19 | 0.00 0.00 | QC 5 - 10                   |  |
|                                   |        |         |           | QC 5 - 12                   |  |
|                                   |        |         |           | QC 5 - 17                   |  |
|                                   |        |         |           | QC 5 - 18                   |  |
|                                   |        |         |           | QC 5 - 19                   |  |
|                                   |        |         |           | QC 5 - 22                   |  |
|                                   |        |         |           | QC 5 - 24                   |  |
|                                   |        |         |           | QC 5 - 3                    |  |
|                                   |        |         |           | QC 5 - 43                   |  |
|                                   |        |         |           | QC 5 - 49                   |  |
|                                   |        |         |           | QC 5 - 51                   |  |
|                                   |        |         |           | QC 5 - 58                   |  |
|                                   |        |         |           | QC 5 - 68                   |  |
|                                   |        |         |           | QC 5 - 9                    |  |
|                                   |        |         |           | QC 5 - 50                   |  |
|                                   |        |         |           | QC 5 - 30                   |  |
|                                   |        |         |           | QC 5 - 40                   |  |
|                                   |        |         |           | QC 5 - 61                   |  |
|                                   |        |         |           | QC 5 - 81                   |  |
| 150 Handfinish - 1-1 Chemical-B4B | 12 pcs | 11/4/19 | 0.00 0.48 | Handfinish - 1 - 1 - B4B    |  |
|                                   |        |         |           | Handfinish - 1 - 2 - B4B    |  |
|                                   |        |         |           | Handfinish - 1 - 3 - B4B    |  |
|                                   |        |         |           | Handfinish - 1 - 4 - B4B    |  |
|                                   |        |         |           | Handfinish - 1 - 5 - B4B    |  |
|                                   |        |         |           | Handfinish - 1 - 6 - B4B    |  |
|                                   |        |         |           | Handfinish - 1 - 7 - B4B    |  |
|                                   |        |         |           | Handfinish - 1 - 8 - B4B    |  |
|                                   |        |         |           | Handfinish - 1 - 9 - B4B    |  |
|                                   |        |         |           | Handfinish - 1 - 10 - B4B   |  |
|                                   |        |         |           | Handfinish - 1 - 11 - B4B   |  |
|                                   |        |         |           | Handfinish - 1 - 12 - B4B   |  |
|                                   |        |         |           | Handfinish - 1 - 13 - B4B   |  |
|                                   |        |         |           | Handfinish - 1 - 14 - B4B   |  |
|                                   |        |         |           | Handfinish - 1 - 15 - B4B   |  |
|                                   |        |         |           | Handfinish - 1 - 16 - B4B   |  |
|                                   |        |         |           | Handfinish - 1 - 17 - B4B   |  |
|                                   |        |         |           | Handfinish - 1 - 18 - B4B   |  |
|                                   |        |         |           | Handfinish - 1 - 19 - B4B   |  |
|                                   |        |         |           | Handfinish - 1 - 20 - B4B   |  |
|                                   |        |         |           | Handfinish - 1 - 21 - B4B   |  |
|                                   |        |         |           | Handfinish - 1 - 22 - B4B   |  |
| 160 QC 7                          | 12 pcs | 11/4/19 | 0.00 0.00 | QC 7 - 10                   |  |
|                                   |        |         |           | QC 7 - 13                   |  |
|                                   |        |         |           | QC 7 - 14                   |  |
|                                   |        |         |           | QC 7 - 15                   |  |
|                                   |        |         |           | QC 7 - 17                   |  |
|                                   |        |         |           | QC 7 - 18                   |  |
|                                   |        |         |           | QC 7 - 19                   |  |
|                                   |        |         |           | QC 7 - 2                    |  |
|                                   |        |         |           | QC 7 - 28                   |  |
|                                   |        |         |           | QC 7 - 3                    |  |
|                                   |        |         |           | QC 7 - 30                   |  |
|                                   |        |         |           | QC 7 - 34                   |  |
|                                   |        |         |           | QC 7 - 36                   |  |
|                                   |        |         |           | QC 7 - 37                   |  |
|                                   |        |         |           | QC 7 - 41                   |  |

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|                                 |           |         |           |                        |           |  |
|---------------------------------|-----------|---------|-----------|------------------------|-----------|--|
|                                 |           |         |           |                        | QC 7 - 47 |  |
|                                 |           |         |           |                        | QC 7 - 48 |  |
|                                 |           |         |           |                        | QC 7 - 51 |  |
|                                 |           |         |           |                        | QC 7 - 58 |  |
|                                 |           |         |           |                        | QC 7 - 59 |  |
|                                 |           |         |           |                        | QC 7 - 60 |  |
|                                 |           |         |           |                        | QC 7 - 9  |  |
|                                 |           |         |           |                        | QC 7 - 68 |  |
|                                 |           |         |           |                        | QC 7 - 50 |  |
|                                 |           |         |           |                        | QC 7 - 67 |  |
|                                 |           |         |           |                        | QC 7 - 40 |  |
|                                 |           |         |           |                        | QC 7 - 24 |  |
|                                 |           |         |           |                        | QC 7 - 43 |  |
|                                 |           |         |           |                        | QC 7 - 61 |  |
|                                 |           |         |           |                        | QC 7 - 81 |  |
|                                 |           |         |           |                        | QC 7 - 76 |  |
|                                 |           |         |           |                        | QC 7 - 79 |  |
| 170 Packaging 3-1 - Stock - B4B | 12<br>pcs | 11/4/19 | 0.00 0.00 | Packaging 3 - 1 - B4B  |           |  |
|                                 |           |         |           | Packaging 3 - 2 - B4B  |           |  |
|                                 |           |         |           | Packaging 3 - 3 - B4B  |           |  |
|                                 |           |         |           | Packaging 3 - 4 - B4B  |           |  |
|                                 |           |         |           | Packaging 3 - 5 - B4B  |           |  |
|                                 |           |         |           | Packaging 3 - 6 - B4B  |           |  |
|                                 |           |         |           | Packaging 3 - 7 - B4B  |           |  |
|                                 |           |         |           | Packaging 3 - 8 - B4B  |           |  |
|                                 |           |         |           | Packaging 3 - 9 - B4B  |           |  |
|                                 |           |         |           | Packaging 3 - 10 - B4B |           |  |
|                                 |           |         |           | Packaging 3 - 11 - B4B |           |  |
|                                 |           |         |           | Packaging 3 - 12 - B4B |           |  |
|                                 |           |         |           | Packaging 3 - 13 - B4B |           |  |
|                                 |           |         |           | Packaging 3 - 14 - B4B |           |  |
|                                 |           |         |           | Packaging 3 - 15 - B4B |           |  |
|                                 |           |         |           | Packaging 3 - 16 - B4B |           |  |
|                                 |           |         |           | Packaging 3 - 17 - B4B |           |  |
|                                 |           |         |           | Packaging 3 - 18 - B4B |           |  |
|                                 |           |         |           | Packaging 3 - 19 - B4B |           |  |
|                                 |           |         |           | Packaging 3 - 20 - B4B |           |  |
|                                 |           |         |           | Packaging 3 - 21 - B4B |           |  |
|                                 |           |         |           | Packaging 3 - 22 - B4B |           |  |
|                                 |           |         |           | Packaging 3 - 23 - B4B |           |  |
|                                 |           |         |           | Packaging 3 - 24 - B4B |           |  |
|                                 |           |         |           | Packaging 3 - 25 - B4B |           |  |
|                                 |           |         |           | Packaging 3 - 26 - B4B |           |  |
|                                 |           |         |           | Packaging 3 - 27 - B4B |           |  |
|                                 |           |         |           | Packaging 3 - 28 - B4B |           |  |
|                                 |           |         |           | Packaging 3 - 29 - B4B |           |  |
|                                 |           |         |           | Packaging 3 - 30 - B4B |           |  |
|                                 |           |         |           | Packaging 3 - 31 - B4B |           |  |
|                                 |           |         |           | Packaging 3 - 32 - B4B |           |  |
|                                 |           |         |           | Packaging 3 - 33 - B4B |           |  |
|                                 |           |         |           | Packaging 3 - 34 - B4B |           |  |
|                                 |           |         |           | Packaging 3 - 35 - B4B |           |  |
|                                 |           |         |           | Packaging 3 - 36 - B4B |           |  |
| 180 QC 21 - SA                  | 12<br>pcs | 11/4/19 | 0.00 0.00 | QC 21 - SA - 21        |           |  |
|                                 |           |         |           | QC 21 - SA - 70        |           |  |
|                                 |           |         |           | QC 21 - SA - 53        |           |  |

Part Op 100 - 1-Cut as per Dwg D2322  
Descriptions: 120 - (QC8- Inspect parts - second check)  
130 - Form as per Dwg D2322

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140 - (QC5- Inspect part completeness to step on W/O)  
 150 - (Chemical Conversion Coat per QSI005 4.1)  
 160 - (QC7-Inspect Chemical Conversion Coat)  
 170 - (Identify as per dwg & Stock Location: \_\_\_\_\_) LOCATION : GA  
 180 - (QC21- Final Inspection - Work Order Release)

## Job BOM

| Part / Item  | Component Name     | Quantity            | Operation               | Container |
|--------------|--------------------|---------------------|-------------------------|-----------|
| M2024T3S.040 | 2024-T3 .040 Sheet | 2.4360 sf (.203 ea) | 100-Waterjet - Flow - 1 | 5216342   |

## Job Allocations

| Operation               | Component Part | Required | Inventory | Allocated |
|-------------------------|----------------|----------|-----------|-----------|
| 100-Waterjet - Flow - 1 | M2024T3S.040   | 2        | 128       | 0         |

## Part Specifications

| Spec No | Description | Target/Tolerance               | Limits         | Type  | Special Comments |
|---------|-------------|--------------------------------|----------------|-------|------------------|
| 1       | Step Spacer | 0.250Inches $\pm$ 0.005        | 0.255<br>0.245 | 0.252 |                  |
| 2       | Step Spacer | 4.178Inches $\pm$ 0.005        | 4.183<br>4.173 | 4.175 |                  |
| 3       | Step Spacer | 4.428Inches $\pm$ 0.010        | 4.438<br>4.418 | 4.433 |                  |
| 4       | Step Spacer | 0.250Inches $\pm$ 0.005        | 0.255<br>0.245 | 0.251 |                  |
| 5       | Step Spacer | 6.520Inches $\pm$ 0.010        | 6.530<br>6.510 | 6.521 |                  |
| 6       | Step Spacer | 0.128Inches + 0.005<br>- 0.000 | 0.133<br>0.128 | 0.129 | Diameter         |
| 7       | Step Spacer | 0.125Inches $\pm$ 0.010        | 0.135<br>0.115 |       | Radius           |

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Entered: \_\_\_\_\_ Date: \_\_\_\_\_

## WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No.

Route update only

|                                  |             |                                                                                                                                    |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |  |  |                        |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------------|-------------|------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|------------------------|--|--|--|--|--|--|--|--|--|--|--|--|
| Job: _____                       |             | <b>DISPOSITION</b>                                                                                                                 |  |  |  |  |  | <b>DEPARTMENT/PROCESS</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |                        |  |  |  |  |  |  |  |  |  |  |  |  |
| Part No. _____                   |             | <div>Rework <input type="checkbox"/></div> <div>Scrap <input type="checkbox"/></div> <div>Use-as-is <input type="checkbox"/></div> |  |  |  |  |  | <div>Skid-tube <input type="checkbox"/> Cross tube <input type="checkbox"/> Eng. (Non-AW) <input type="checkbox"/></div> <div>Machining <input type="checkbox"/> Small Fab <input type="checkbox"/> Prod. Eng. Coord. <input type="checkbox"/></div> <div>Large Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Rec./Store/Packaging <input type="checkbox"/></div> <div>Engineering <input type="checkbox"/></div> <div>Water Jet <input type="checkbox"/></div> <div>Supplier <input type="checkbox"/></div> <div>Quality <input type="checkbox"/></div> |  |  |  |                        |  |  |  |  |  |  |  |  |  |  |  |  |
| Date :                           | Sequence #: | QTY Affected :                                                                                                                     |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |  |  | MRB (QS1042)           |  |  |  |  |  |  |  |  |  |  |  |  |
| Description Work Order Deviation |             |                                                                                                                                    |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |  |  | Disposition            |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |             |                                                                                                                                    |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |  |  |                        |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |             |                                                                                                                                    |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |  |  | Completed By           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |             |                                                                                                                                    |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |  |  | Lead hand / Supervisor |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |             |                                                                                                                                    |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |  |  | QC / QA Coordinator    |  |  |  |  |  |  |  |  |  |  |  |  |

  

| Root Cause               |                       | FAULT CATEGORY           |                                 |                          |                          |                    |                          |                          |                          |                          |                          |                          |                          |                          |                   |
|--------------------------|-----------------------|--------------------------|---------------------------------|--------------------------|--------------------------|--------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|-------------------|
| <input type="checkbox"/> | Operator              | <input type="checkbox"/> | Contamination                   | <input type="checkbox"/> | <input type="checkbox"/> | Power Loss/Surge   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Positioned Wrong  |
| <input type="checkbox"/> | Manufacturing Process | <input type="checkbox"/> | Misaligned/off center           | <input type="checkbox"/> | <input type="checkbox"/> | Folio/Program      | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Outside Tolerance |
| <input type="checkbox"/> | Equip/Tooling         | <input type="checkbox"/> | BOM/Route                       | <input type="checkbox"/> | <input type="checkbox"/> | Grain Direction    | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Drawing           |
| <input type="checkbox"/> | Handling/Preservation | <input type="checkbox"/> | Broken/Damage/Defect            | <input type="checkbox"/> | <input type="checkbox"/> | Weld               | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Finish            |
| <input type="checkbox"/> | Material              | <input type="checkbox"/> | Incomplete/Unclear Instructions | <input type="checkbox"/> | <input type="checkbox"/> | Wrong Stock Pulled | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Part Lost/Missing |
| <input type="checkbox"/> | Product Improvement   | <input type="checkbox"/> | Drill Holes                     | <input type="checkbox"/> | <input type="checkbox"/> | Out of Sequence    | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Misread           |
| <input type="checkbox"/> | Process Improvement   | <input type="checkbox"/> | Fit/Function                    | <input type="checkbox"/> | <input type="checkbox"/> | Off-set/Set-up     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |                   |
| <input type="checkbox"/> | Human Factors         | Other/Details:           |                                 |                          |                          |                    |                          |                          |                          |                          |                          |                          |                          |                          |                   |